Tsitologiya 2000 vol.42 N7, pages 696-701

Electron immunohistochemical analysis of localization of neutral Mn2+-dependent DNAase. III. Visualization of DNAse binding to isolated chromatin | Elektronnoe immunogistokhimicheskoe izuchenie lokalizatsii neitral'noi Mn2+-zavisimoi DNKazy. III. Vizualizatsiia sviazyvaniia DNKazy s izolirovannym khromatinom.

Abramova Z., Vinter V.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

Neutral Mn(2+)-dependent DNAse is localized on isolated chromatin structures in both normal and regenerating rat liver. The enzyme was revealed located along the whole length of nucleosomal chain and in hypernucleosomal structures. However, as concerns the quantity of the enzyme, it was distributed unevently along the chromatin, thus reflecting the pattern of different functional states of native chromatin. According to biochemical and immunohistochemical data, DNAse can hydrolyse in vitro only one-stranded DNA. One of possible explanations of the observed differences in DNAse binding with native DNA chromatin and its inability to adsorb on native DNA in vitro may be the presence of hypothetical DNA-binding proteins in native chromatin making complexes with DNAse and thereby responsible for immobilization of the enzyme on chromatin structures in vivo.